CLAIMS

1 – Multilayer insulating panel with an injected/foamed (expanded) plastic core (3) incorporated between two layers of non-expanded material (1) (2) and including an integrated assembly system (4) allowing the said panel and at least one other complementary panel to be assembled in at least one dimension in space, characterized in that the said panel and its assembly system (4) are of a form that, when the said panel and complementary panel are assembled, they delimit with their assembly system (4) at least one adjustable cavity (10) suitable for injecting a seal, the said cavity (10) widening at least partly towards the inside of the panel.

2 – Insulating panel according to Claim 1, characterized in that it is mainly made of plastic.

3 – Insulating panel according to the preceding claim, characterized in that the expanded plastic core (3) is made of polyurethane and the two layers of non-expanded plastic (1) (2) are made of rigid PVC.

4 – Insulating panel according to any one of the preceding claims, characterized in that the assembly system (4) is made up of two identical plastic sections located on either side of the panel in a lengthwise direction.

5 – Insulating panel according to any one of the preceding claims, characterized in that, once they have been assembled, the two complementary panels and their assembly systems (4) (4') delimit two cavities (10) (11), one on each face of the assembly.

6 – Process for manufacturing an insulating panel according to any one of the preceding claims, characterized in that an insulating panel of suitable shape is manufactured and that an assembly system (4), also of suitable shape, is fixed to this panel to obtain at least one cavity (10) widening towards the inside of the panel once the said panel is assembled with a complementary panel, the said cavity being adjustable and suitable for injecting a seal and the panel being manufactured by injecting/foaming (expanding) an expanded plastic core (3) between two layers of non-expanded plastic (1) (2).

7 – Process according to the preceding claim, characterized in that it includes the following stages :

two non-expanded plastic or metal leaves (1) (2) are manufactured along with two complementary plastic sections (4) of the same length as the leaves (and the panel), featuring a folded section (5) (6) at each of their ends

- two ends of the two leaves (1) (2) (those parallel to the panel length) are folded in such a way as to obtain an acute angle between each fold (7) (8) and the remainder of the leaves
- one of the two folded leaves (2) is placed in a mould along with the two sections (4) positioned with one end (6) inside the folded ends of the leaf (8) and held by jigs located laterally inside the mould
- the second folded leaf (1) is placed over the two sections (4) such that its folded ends (7) cover the other end of the sections (4) and that an internal space (3) is delimited by the two leaves and the two sections
- expanded plastic is injected into the said internal space (3)
- the panel is extracted from the mould.

8 – Process according to the preceding claim, characterized in that the leaves (1) (2) are folded using a roller folding machine.

9 – Process for assembling insulating panels according to any one of Claims 1 to 5 or obtained by a process according to any one of Claims 6 to 8, according to which two complementary multilayer panels with an injected/foamed (expanded) plastic core (3) incorporated between two layers of non-expanded material (1) (2) are assembled in a way such that they delimit with their assembly system (4) at least one adjustable cavity (10) widening towards the inside of the panel and according to which a sealant is then injected into this cavity.

10 – Use of insulating panels according to any one of Claims 1 to 5 or obtained by a process according to any one of Claims 6 to 8 or assembled by a process according to Claim 9 as an insulating lining or insulating self-standing structural wall for the storage of animal feeds or the construction of shelters.